Math 357
Short quiz 11

2024–03–20 (W)

Your name: _____

(a) Define the minimal polynomial of a field element. Briefly but clearly introduce any hypotheses and auxiliary objects that you use in your definition.

(b) Let $\alpha = \sqrt{-\sqrt{2}} \in \mathbf{C}$. State the minimal polynomial of α over $\mathbf{Q}$, over $\mathbf{R}$, and over $\mathbf{C}$.